General

Guideline Title

ACR Appropriateness Criteria® advanced cervical cancer.

Bibliographic Source(s)

Gaffney DK, Erickson B, Jhingran A, Mayr NA, Puthawala AA, Cardenes HR, Elshaikh MA, Gullet N, Kidd E, Lee LJ, Moore D, Rao GG, Small W Jr, Varia MA, Wahl AO, Wolfson AH, Yashar CM, Yuh W, Expert Panel on Radiation Oncology-Gynecology. ACR Appropriateness CriteriaÂ® advanced cervical cancer. [online publication]. Reston (VA): American College of Radiology (ACR); 2012. 8 p. [47 references]

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: Gaffney DK, Erickson-Wittmann BA, Jhingran A, Mayr NA, Puthawala AA, Cardenes HR, Moore D, Rao GG, Small W Jr, Varia MA, Wolfson AH, Yashar CM, Yuh W, Expert Panel on Radiation Oncology-Gynecology. ACR Appropriateness Criteria® advanced cervical cancer. [online publication]. Reston (VA): American College of Radiology (ACR); 2010. 7 p.

Regulatory Alert

FDA Warning/Regulatory Alert

Note from the National Guideline Clearinghouse: This guideline references a drug(s) for which important revised regulatory and/or warning information has been released.

- December 14, 2016 – General anesthetic and sedation drugs : The U.S. Food and Drug Administration (FDA) is warning that repeated or lengthy use of general anesthetic and sedation drugs during surgeries or procedures in children younger than 3 years or in pregnant women during their third trimester may affect the development of children's brains. Consistent with animal studies, recent human studies suggest that a single, relatively short exposure to general anesthetic and sedation drugs in infants or toddlers is unlikely to have negative effects on behavior or learning. However, further research is needed to fully characterize how early life anesthetic exposure affects children's brain development.

Recommendations

Major Recommendations

ACR Appropriateness Criteria®

Clinical Condition: Advanced Cervical Cancer

Variant 1: 35-year-old woman with a 3 cm tumor and 5 cm left common iliac lymph node at the level of L5 by CT.

Treatment	Rating	Comments
Staging Method		
FDG-PET/CT whole body	9	
MRI abdomen and pelvis	8	
Surgical	6	
Examination under anesthesia	5	
Cystoscopy	4	
Proctoscopy	4	
Treatment of Primary		
Chemoradiotherapy	9	
Induction chemotherapy followed by local treatment	2	
RT alone	1	
Radical hysterectomy	1	
Treatment of Lymph Nodes		
3D conformal RT	7	
IMRT	7	
Laparoscopic lymph node dissection then RT	6	
Retroperitoneal lymph node dissection then RT	5	
Robotic lymph node dissection then RT	5	
Open laparotomy for lymph node dissection then RT	2	
Transperitoneal lymph node dissection then RT	1	
Type of Chemotherapy		
Concurrent	9	
Concurrent and adjuvant chemotherapy	5	
Neoadjuvant chemotherapy followed by concurrent CRT	2	

Treatment	Rating	Comments
Neoadjuvant chemotherapy then surgery	2	
Adjuvant chemotherapy after surgery and nodal debulking (no RT)	1	
Chemotherapy		
Cisplatin	9	
Cisplatin and 5-FU	7	
5-FU	2	
Carboplatin and taxol	2	
Gemcitabine and cisplatin	2	
Other	2	
Initial Dose of Radiotherapy to the Pelvis		
<40 Gy	2	
40-45 Gy	7	
46-50 Gy	7	
>50 Gy	3	
Location of Upper Field Border for a Positive Common Iliac Lymph Node Patient with Negative Para-Aortic Lymph Nodes by PET/CT		
L1/T12	8	
L2/1	7	
L2/L3	5	
T12/L1	5	
L3/4	3	
Dose to the Para-aortic Region when Treating Electively		
<40 Gy	1	
40-45 Gy	8	
46-50 Gy	6	
>50 Gy	1	
Dose of Brachytherapy (Cumulative Point A Low-Dose Equivalent)		
≤80 Gy	1	
81-85 Gy	8	

>85 Gy Treatment	Rating	Comments
Type of Intracavitary Brachytherapy		
Low-dose-rate	9	
High-dose-rate	9	
Pulsed-dose-rate	6	
Rating Scale: 1,2,3 Usually not appropriate; 4,5,6 May be appropriate; 7,8,9 Usually appropriate		

Note: Abbreviations used in the tables are listed at the end of the "Major Recommendations" field.

Variant 2: 40-year-old woman with a 5 cm, IIA adenocarcinoma with a 2 cm para-aortic lymph node.

Treatment	Rating	Comments
External Beam Arrangement		
Four-field 3D conformal RT to the pelvis and para-aortic region	7	
Four-field 3D conformal RT to the pelvis and AP/PA to the para-aortic region	7	
Four-field 3D conformal RT to the pelvis and IMRT to para-aortic region	7	
AP/PA to the pelvis and para-aortic region	5	
IMRT to the pelvis and para-aortic region	3	
Nodal Boost Type		
3D conformal RT	8	
IMRT	8	
None	1	
Cumulative Nodal Boost Dose after 45 Gy		
<55 Gy	5	
56-65 Gy	7	
66-70 Gy	3	
>70 Gy	1	
Rating Scale: 1,2,3 Usually not appropriate; 4,5,6 May be appropriate; 7,8,9 Usually appropriate		

Note: Abbreviations used in the tables are listed at the end of the "Major Recommendations" field.

Variant 3: 42-year-old woman with a stage IIIB squamous cell carcinoma 9 cm in size with bilateral hydronephrosis. After the initial 45 Gy, a 5 cm

tumor remained.

Treatment	Rating	Comments
Treatment		
Chemoradiotherapy	8	
RT	5	
Chemoradiotherapy followed by adjuvant hysterectomy	3	
Radical hysterectomy	1	
Type of Boost		
Tandem and ovoid	8	
MRI based image guided brachytherapy	8	
Tandem and ring	7	
Interstitial	7	
3D conformal RT	4	
IMRT	4	
Proton or other particle therapy	1	
Rating Scale: 1,2,3 Usually not appropriate; 4,5,6 May be appropriate; 7,8,9 Usually appropriate		

Note: Abbreviations used in the tables are listed at the end of the "Major Recommendations" field.

Variant 4: 28-year-old woman after chemoradiotherapy for a node-negative stage IIB squamous carcinoma that was 7 cm in size initially. Three months after definitive chemotherapy, a 2 cm residual mass is noted. She received 45 Gy to the pelvis followed by two low-dose-rate implants to a cumulative dose of 85 Gy to Point A.

Treatment	Rating	Comments
Biopsy	9	
MRI pelvis without and with contrast	8	
FDG-PET/CT whole body	8	
CT abdomen and pelvis with contrast	6	
Re-evaluation in one month	1	
Simple hysterectomy	1	
Radical hysterectomy	1	
Management Options after Positive Biopsy		
Exenteration	8	
Chemotherapy	5	
Interstitial implant	4	
Rating Scale: 1,2,3 Usually not appropriate; 4,5,6 May be appropriate; 7,8,9 Usually appropriate		

Treatment	Rating	Comments
Radical hysterectomy	3	
RT	2	
Chemoradiotherapy	2	
Simple hysterectomy	1	
Rating Scale: 1,2,3 Usually not appropriate; 4,5,6 May be appropriate; 7,8,9 Usually appropriate		

Note: Abbreviations used in the tables are listed at the end of the "Major Recommendations" field.

Summary of Literature Review

Introduction

The management of advanced cervix cancer continues to evolve. The disease remains a severe worldwide public health problem. It is the second leading cause of cancer death in women worldwide with the majority of women presenting with advanced stage disease. The availability of advanced imaging, new radiotherapeutic modalities, and novel chemotherapeutic agents has gradually modified the standard of care for women with advanced cervix cancer.

Staging

Cervix cancer remains a clinically staged neoplasm. The International Federation of Gynecology and Obstetrics (FIGO) recently updated the staging system for carcinoma of the cervix.

Due to historical precedence and lack of uniform availability of imaging, FIGO elected to continue using a clinical staging system. FIGO readily endorses the use of imaging such as computed tomography (CT), magnetic resonance imaging (MRI), or positron emission tomography (PET) imaging for patient care. MRI has been demonstrated in numerous studies to be an excellent modality for assessing the extent of the primary neoplasm due to its excellent soft-tissue resolution, in contrast to CT. MRI is excellent for revealing parametrial infiltration and vaginal extension in addition to tumor size. CT and MRI are not particularly useful for evaluating the sensitivity of lymph node involvement. A recent study demonstrated sensitivities of 36% and 35% for CT and MRI, respectively, in women surgically staged for cervix cancer. MRI is the preferred modality for evaluating endometrial involvement. PET/CT has been shown to be superior to MRI in evaluating lymph node extension in cervix cancer. Similarly, for evaluating extent of disease, PET/CT has favorable diagnostic accuracy for assessing metastatic disease. The prognostic importance of PET imaging in detecting the regional or metastatic spread of cervix cancer has been documented (see the National Guideline Clearinghouse [NGC] summary ACR Appropriateness Criteria® pretreatment planning of invasive cancer of the cervix).

Treatment of the Primary in Advanced Cervix Neoplasms

The preferred modality for treating advanced cervix cancer is chemoradiotherapy (see Variant 1 above). A recent review advocated that for tumors greater than IB1, the preferred primary treatment is chemoradiotherapy. Another relatively common treatment in countries where radiotherapy (RT) is not widely available is neoadjuvant chemotherapy followed by surgery. The Gynecologic Oncology Group (GOG) 141 was a prospective trial in 291 women comparing 3 cycles of vincristine and cisplatin followed by surgery to surgery alone. The hazard rates were 1.00 for recurrence and 1.01 for overall survival. The GOG concluded that there was no evidence of any objective benefit with neoadjuvant chemotherapy as delivered in this trial. A randomized trial performed in China in 142 patients with stages IB2-IIB also failed on Cox hazard analysis to show a survival benefit for neoadjuvant therapy compared to surgery alone. In this trial the overall clinical response rate was 69%. Worldwide, many women do not have access to RT. A recent meta-analysis of neoadjuvant chemotherapy and surgery compared to surgery alone in five trials evaluating data on over 900 women showed no survival advantage for the neoadjuvant chemotherapy design.

Neoadjuvant chemotherapy has demonstrated high response rates in cancer of the cervix, allowing local therapy to be delivered in a substantial proportion of women. In one recent experience in 39 women with stage IIIB cervix cancer the pathologic complete response rate was 34%. A large meta-analysis has been done evaluating over 3,000 patients treated in 21 different randomized trials. In the 18 trials comparing neoadjuvant chemotherapy followed by radical RT versus the same RT alone, trials that employed a cisplatin dose intensity of $\geq$25 mg/m^2, and chemotherapy cycles of a fortnight or less tended to have improved survival, whereas trials that used a cisplatin dose intensity of <25 mg/m^2, and chemotherapy cycles longer than a fortnight tended to have impaired survival. This may be due to accelerated repopulation triggered by the early institution of chemotherapy. In the five trials comparing neoadjuvant chemotherapy followed by surgery versus RT, there was a highly significant reduction in the risk of death with neoadjuvant chemotherapy, but significant trial heterogeneity was noted.

In the developed world, the preferred modality for treating advanced cancer of the cervix is chemoradiotherapy (see Variant 1 above). A large trial is ongoing by the European Organisation for Research and Treatment of Cancer (EORTC) comparing chemoradiotherapy to neoadjuvant chemotherapy and surgery. Neoadjuvant chemotherapy followed by RT has been addressed in multiple trials, and in several studies this has resulted in inferior survival rates. The Cochrane meta-analysis concluded that this strategy could jeopardize survival unless a quick, dose-intense regimen is used. This may be due to accelerated repopulation triggered by the early institution of chemotherapy.

The preferred dose of whole pelvic RT is approximately 45 Gy (see Variant 1 above). Most clinical trials have used external-beam doses similar to this with an allowance for boosting areas of positive lymph nodes or positive margins. There have been no pure phase III dose escalation trials. In the absence of involved pelvic lymph nodes, the majority of respondents treat a large pelvic field with the upper border at the junction of L4-5 or the bifurcation of the iliac arteries from the aorta. The preferred external-beam modality has not been tested. In other words, two-dimensional RT versus three-dimensional therapy versus intensity-modulated radiation therapy (IMRT) has not been tested in a prospective fashion. Retrospective reviews point to the limitations of using boney landmarks alone, particularly with regard to nodal coverage. IMRT is not felt by the panel to be indicated for the routine treatment of cervix cancer at this time due to significant organ motion issues. Common beam arrangements for the three-dimensional treatment of cervix cancer include anteroposterior (AP)/posteroanterior (PA) and four-field approaches. When AP/PA fields are used, a high-energy beam is preferred. When lateral fields are used, three-dimensional planning can help to avoid marginal misses of the uterus and pelvic lymph nodes.

Nodal Treatments

The treatment of lymph nodes continues to evolve. The decision about performing surgical resection depends on the physician's choice, patient's performance status, location of tumor, and tumor size. The optimal dose for sterilization of lymph nodes in advanced cervix cancer continues to be refined. Most radiation oncologists prefer a dose of 60 Gy or greater with limited fields and with strict constraints placed on normal tissues (see Variant 1 and Variant 2 above). Multiple investigators favor boosting positive lymph nodes with IMRT in an attempt to reduce the volume of normal tissue receiving high doses. No prospective trials have evaluated three-dimensional conformal RT boosts versus IMRT in this setting. It is unclear if surgical debulking or dose escalation will impact survival in patients with positive nodes as one study concluded, as these patients fail more often from metastatic disease than from failure to control their nodal disease.

Chemotherapy

The optimal choice of chemotherapy is not defined (see Variant 1 above). In 1999, the National Cancer Institute of the United States released a clinical alert indicating that cisplatin-based chemotherapy improved overall survival in women with advanced cervix cancer. This was due to the simultaneous publication of five clinical trials, which all revealed a benefit for the combination of chemoradiotherapy with cisplatin-based treatment. These treatments had a hazard rate favoring the chemoradiotherapy arm for risk of recurrence ranging from 0.54 to 0.74, with an overall improvement in survival increasing from 9% to 18% depending on the specific trial. More recently, a Cochrane meta-analysis demonstrated that survival was improved not only by cisplatin-based chemotherapy but also by trials using non-cisplatin-containing regimens. Nevertheless, the National Comprehensive Cancer Network (NCCN) guidelines favor the incorporation of cisplatin-based chemotherapy. The optimal dose and scheduling of cisplatin is not established. However, the worldwide standard is currently 40 mg/m^2 of cisplatin administered weekly for 5-6 cycles.

Brachytherapy

In addition to external beam RT, the optimal management of advanced cervix cancer incorporates brachytherapy (see Variant 1 and Variant 3 above). Eighty to 90 Gy low-dose-rate equivalent to Point A or to the high-risk clinical target volume as defined by the Groupe Européen de Curiethérapie (GEC) and the European SocieTy for Radiotherapy & Oncology (GEC-ESTRO) guidelines is preferred. Multiple trials have assessed the survival and toxicity of high-dose-rate brachytherapy versus low-dose-rate brachytherapy. A current meta-analysis evaluating five randomized trials and over 2,000 patients revealed no difference between high- and low-dose-rate brachytherapy for overall survival, local recurrence, and late complications in clinical stages I, II, and III. Additionally, pulsed-dose-rate brachytherapy is used by several centers and is felt to have a biological efficacy to that of low-dose-rate brachytherapy. Most radiation oncologists prefer tandem and ovoid brachytherapy devices (Viswanathan unpublished Gynaecological Cancer Intergroup [GCIG] survey). However, in the 1996-1999 Patterns of Care Study (PCS) study, 68.7% used tandem and ring for high-dose RT and 18.2% tandem and ovoids. Dosimetry should be performed for every insertion to define and limit the doses to the critical organs at risk, including the bladder and rectosigmoid. Interstitial brachytherapy is used by some radiation oncologists for patients with bulky disease, anatomical distortion, or vaginal extension of disease. The panelists were supportive of image-guided brachytherapy (IGBT). In experienced hands, brachytherapy is able to be accomplished in more than 95% of cases. In instances where brachytherapy is not possible, external-beam boosting to the primary is preferred, delivering a dose from 64 to 75 Gy. No trials have evaluated the optimal beam arrangements using three-dimensional conformal RT versus IMRT versus particle therapy. Given the proximity of sensitive normal structures—namely bladder, rectum, and sigmoid—multifield arrangements are preferred.

Role of Hysterectomy after Definitive Radiation Therapy

Initial retrospective reports indicated a local control benefit for a simple hysterectomy after RT in patients with tumors >6 cm in diameter. More recent retrospective reports have challenged the addition of adjuvant hysterectomy. The GOG performed a randomized trial evaluating the benefit of adjuvant hysterectomy in 282 patients with stage IB tumors >4 cm in diameter. There was no survival benefit for hysterectomy; consequently, it is not routinely supported by the panelists (see Variant 4 above). Additionally, the combination of surgery and RT has been shown to be more toxic than RT alone.

Follow-up of Patients

Standard follow-up of patients with advanced cervix cancer includes a clinical evaluation every 3 months for 2 years and then less often. The majority of panelists favor obtaining a PET/CT scan at 3 months to evaluate the extent of disease. Surveillance imaging can lead to successful salvage of asymptomatic recurrences and is cost-effective following definitive therapy. For patients who have a residual mass, appropriate workup and biopsy are recommended.

Treatment of Recurrence

For patients who have a recurrence at the primary in the central pelvis, the preferred management after full-dose chemoradiotherapy is evaluation by an experienced gynecologic oncologist for consideration of exenteration (see Variant 4 above). Favorable response rates have been observed with relatively low morbidity in several series for patients who have a central recurrence only. For patients who have a recurrence involving the pelvic sidewall, there is little enthusiasm for extended surgical procedures. Other management strategies for patients with recurrent cervical cancer after full-dose chemoradiotherapy include repeat chemoradiotherapy. This may be more beneficial if significant time has elapsed since the primary treatment. Interstitial brachytherapy may be a particularly useful modality in this setting. The panelists felt that a repeat course of brachytherapy for recurrent disease may be beneficial if poor-quality RT was performed, such as prolonged treatment course, inadequate treatment fields, or suboptimal brachytherapy. It may be worthwhile to consider sensitizing chemotherapy such as platinols, taxanes, or fluoropyrimidines, depending on previous chemotherapy. Another option for treating recurrent disease is chemotherapy alone. The GOG has documented that the most active single agent is cisplatin. The combinations of cisplatin and topotecan have demonstrated an improvement in overall survival, and recently bevacizumab has shown promising activity in recurrent or metastatic cervix cancer.

Conclusions

- The combined use of imaging, advanced radiotherapeutic modalities, and chemotherapy has led to better treatment for cancer of the cervix.
- MRI and PET/CT are superior modalities for evaluating extent of disease.
- IMRT and IGBT are widely used to reduce dose to normal tissue.
- The addition of chemotherapy concurrently with RT has resulted in a large improvement in overall survival.
- PET scanning before and after chemoradiation can be pivotal in evaluating extent of disease and in detecting persistent or recurrent disease.
- Comparative clinical trials continue to be necessary to monitor our progress in the treatment of advanced cervix cancer.

Abbreviations

- 3D, three-dimensional
- 5-FU, 5-fluorouracil
- AP/PA, anteroposterior/posteroanterior
- CRT, conformal radiotherapy
- CT, computed tomography
- FDG-PET, fluorine-18-2-fluoro-2-deoxy-D-glucose positron emission tomography
- IMRT, intensity-modulated radiation therapy
- MRI, magnetic resonance imaging
- RT, radiotherapy

Clinical Algorithm(s)

Algorithms were not developed from criteria guidelines.

Scope

Disease/Condition(s)

Disease/Condition(s)

Advanced cervical cancer

Guideline Category

Evaluation

Management

Treatment

Clinical Specialty

Obstetrics and Gynecology

Oncology

Radiation Oncology

Radiology

Surgery

Intended Users

Health Plans

Hospitals

Managed Care Organizations

Physicians

Utilization Management

Guideline Objective(s)

To evaluate the appropriateness of radiologic examinations and treatment interventions for patients with advanced cervical cancer

Target Population

Women with advanced cervical cancer

Interventions and Practices Considered

Evaluation/Staging

1. Fluorine-18-2-fluoro-2-deoxy-D-glucose-positron emission tomography (FDG-PET)/computed tomography (CT) whole body
2. CT abdomen and pelvis with contrast
3. Magnetic resonance imaging (MRI)
    - Abdomen and pelvis
    - Pelvis without and with contrast
4. Surgical evaluation
5. Examination under anesthesia
6. Cystoscopy

7. Proctoscopy
8. Biopsy
9. Follow-up evaluation

Treatment

1. Chemotherapy (cisplatin-based or non-cisplatin-based)
2. Chemoradiotherapy
3. External beam radiotherapy (RT)
    - 3-dimensional conformal RT
    - Intensity-modulated radiation therapy (IMRT)
    - Particle therapy
4. Brachytherapy
    - Tandem and ovoid
    - MRI-based image-guided
    - Tandem and ring
    - Interstitial
    - Low-dose-rate
    - High-dose-rate
    - Pulsed-dose-rate
5. Surgery
    - Lymph node dissection
    - Hysterectomy
    - Exenteration
6. Radiotherapy dose

Major Outcomes Considered

- Utility of radiologic examinations for patients with advanced cervical cancer
- Survival rate
- Recurrence rate

Methodology

Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

Literature Search Procedure

The Medline literature search is based on keywords provided by the topic author. The two general classes of keywords are those related to the condition (e.g., ankle pain, fever) and those that describe the diagnostic or therapeutic intervention of interest (e.g., mammography, MRI).

The search terms and parameters are manipulated to produce the most relevant, current evidence to address the American College of Radiology Appropriateness Criteria (ACR AC) topic being reviewed or developed. Combining the clinical conditions and diagnostic modalities or therapeutic procedures narrows the search to be relevant to the topic. Exploding the term "diagnostic imaging" captures relevant results for diagnostic topics.

The following criteria/limits are used in the searches:

1. Articles that have abstracts available and are concerned with humans.
2. Restrict the search to the year prior to the last topic update or in some cases the author of the topic may specify which year range to use in

the search. For new topics, the year range is restricted to the last 5 years unless the topic author provides other instructions.
3. May restrict the search to Adults only or Pediatrics only.
4. Articles consisting of only summaries or case reports are often excluded from final results.

The search strategy may be revised to improve the output as needed.

Number of Source Documents

The total number of source documents identified as the result of the literature search is not known.

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Strength of Evidence Key

Category 1 - The conclusions of the study are valid and strongly supported by study design, analysis and results.

Category 2 - The conclusions of the study are likely valid, but study design does not permit certainty.

Category 3 - The conclusions of the study may be valid but the evidence supporting the conclusions is inconclusive or equivocal.

Category 4 - The conclusions of the study may not be valid because the evidence may not be reliable given the study design or analysis.

Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

The topic author drafts or revises the narrative text summarizing the evidence found in the literature. American College of Radiology (ACR) staff draft an evidence table based on the analysis of the selected literature. These tables rate the strength of the evidence for all articles included in the narrative text.

The expert panel reviews the narrative text, evidence table, and the supporting literature for each of the topic-variant combinations and assigns an appropriateness rating for each procedure listed in the table. Each individual panel member forms his/her own opinion based on his/her interpretation of the available evidence.

More information about the evidence table development process can be found in the ACR Appropriateness Criteria® Evidence Table Development document (see the "Availability of Companion Documents" field).

Methods Used to Formulate the Recommendations

Expert Consensus (Delphi)

Description of Methods Used to Formulate the Recommendations

Modified Delphi Technique

The appropriateness ratings for each of the procedures included in the Appropriateness Criteria topics are determined using a modified Delphi methodology. A series of surveys are conducted to elicit each panelist's expert interpretation of the evidence, based on the available data, regarding the appropriateness of an imaging or therapeutic procedure for a specific clinical scenario. American College of Radiology (ACR) staff distributes surveys to the panelists along with the evidence table and narrative. Each panelist interprets the available evidence and rates each procedure. The surveys are completed by panelists without consulting other panelists. The ratings are a scale between 1 and 9, which is further divided into three categories: 1, 2, or 3 is defined as "usually not appropriate"; 4, 5, or 6 is defined as "may be appropriate"; and 7, 8, or 9 is defined as "usually appropriate." Each panel member assigns one rating for each procedure per survey round. The surveys are collected and the results are tabulated, de-identified and redistributed after each round. A maximum of three rounds are conducted. The modified Delphi technique enables each panelist to express individual interpretations of the evidence and his or her expert opinion without excessive bias from fellow panelists in a simple, standardized and economical process.

Consensus among the panel members must be achieved to determine the final rating for each procedure. Consensus is defined as eighty percent (80%) agreement within a rating category. The final rating is determined by the median of all the ratings once consensus has been reached. Up to three rating rounds are conducted to achieve consensus.

If consensus is not reached, the panel is convened by conference call. The strengths and weaknesses of each imaging procedure that has not reached consensus are discussed and a final rating is proposed. If the panelists on the call agree, the rating is accepted as the panel's consensus. The document is circulated to all the panelists to make the final determination. If consensus cannot be reached on the call or when the document is circulated, "No consensus" appears in the rating column and the reasons for this decision are added to the comment sections.

Rating Scheme for the Strength of the Recommendations

Not applicable

Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

Method of Guideline Validation

Internal Peer Review

Description of Method of Guideline Validation

Criteria developed by the Expert Panels are reviewed by the American College of Radiology (ACR) Committee on Appropriateness Criteria.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The recommendations are based on analysis of the current literature and expert panel consensus.

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Selection of appropriate radiologic imaging procedures, radiotherapy techniques, and chemotherapy for advanced cervical cancer

Potential Harms

The combination of surgery and radiotherapy (RT) has been shown to be more toxic than RT alone.

Qualifying Statements

Qualifying Statements

The American College of Radiology (ACR) Committee on Appropriateness Criteria and its expert panels have developed criteria for determining appropriate imaging examinations for diagnosis and treatment of specified medical condition(s). These criteria are intended to guide radiologists, radiation oncologists, and referring physicians in making decisions regarding radiologic imaging and treatment. Generally, the complexity and severity of a patient's clinical condition should dictate the selection of appropriate imaging procedures or treatments. Only those examinations generally used for evaluation of the patient's condition are ranked. Other imaging studies necessary to evaluate other co-existent diseases or other medical consequences of this condition are not considered in this document. The availability of equipment or personnel may influence the selection of appropriate imaging procedures or treatments. Imaging techniques classified as investigational by the U.S. Food and Drug Administration (FDA) have not been considered in developing these criteria; however, study of new equipment and applications should be encouraged. The ultimate decision regarding the appropriateness of any specific radiologic examination or treatment must be made by the referring physician and radiologist in light of all the circumstances presented in an individual examination.

Implementation of the Guideline

Description of Implementation Strategy

An implementation strategy was not provided.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Living with Illness

IOM Domain

Effectiveness

Identifying Information and Availability

Bibliographic Source(s)

Gaffney DK, Erickson B, Jhingran A, Mayr NA, Puthawala AA, Cardenes HR, Elshaikh MA, Gullet N, Kidd E, Lee LJ, Moore D, Rao GG, Small W Jr, Varia MA, Wahl AO, Wolfson AH, Yashar CM, Yuh W, Expert Panel on Radiation Oncology-Gynecology. ACR Appropriateness CriteriaÂ® advanced cervical cancer. [online publication]. Reston (VA): American College of Radiology (ACR); 2012. 8 p. [47 references]

Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2010 (revised 2012)

Guideline Developer(s)

American College of Radiology - Medical Specialty Society

Source(s) of Funding

The American College of Radiology (ACR) provided the funding and the resources for these ACR Appropriateness Criteria®.

Guideline Committee

Committee on Appropriateness Criteria, Expert Panel on Radiation Oncology–Gynecology

Composition of Group That Authored the Guideline

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Financial Disclosures/Conflicts of Interest

Not stated

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: Gaffney DK, Erickson-Wittmann BA, Jhingran A, Mayr NA, Puthawala AA, Cardenes HR, Moore D, Rao GG, Small W Jr, Varia MA, Wolfson AH, Yashar CM, Yuh W, Expert Panel on Radiation Oncology-Gynecology. ACR Appropriateness Criteria® advanced cervical cancer. [online publication]. Reston (VA): American College of Radiology (ACR); 2010. 7 p.

Guideline Availability

Electronic copies: Available from the American College of Radiology (ACR) Web site.

Print copies: Available from the American College of Radiology, 1891 Preston White Drive, Reston, VA 20191. Telephone: (703) 648-8900.

Availability of Companion Documents

The following are available:

- ACR Appropriateness Criteria®. Overview. Reston (VA): American College of Radiology; 2 p. Electronic copies: Available in Portable

Document Format (PDF) from the American College of Radiology (ACR) Web site.

- ACR Appropriateness Criteria®. Literature search process. Reston (VA): American College of Radiology; 1 p. Electronic copies: Available in PDF from the ACR Web site.
- ACR Appropriateness Criteria®. Evidence table development – diagnostic studies. Reston (VA): American College of Radiology; 2013 Nov. 3 p. Electronic copies: Available in PDF from the ACR Web site.
- ACR Appropriateness Criteria®. Evidence table development – therapeutic studies. Reston (VA): American College of Radiology; 2013 Nov. 4 p. Electronic copies: Available in PDF from the ACR Web site.
- ACR Appropriateness Criteria® advanced cervical cancer. Evidence table. Reston (VA): American College of Radiology; 2012. 17 p. Electronic copies: Available from the ACR Web site.

Patient Resources

None available

NGC Status

This NGC summary was completed by ECRI Institute on September 19, 2011. This NGC summary was updated by ECRI Institute on May 22, 2013. This summary was updated by ECRI Institute on February 15, 2017 following the U.S. Food and Drug Administration advisory on general anesthetic and sedation drugs.

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